FIG. 1

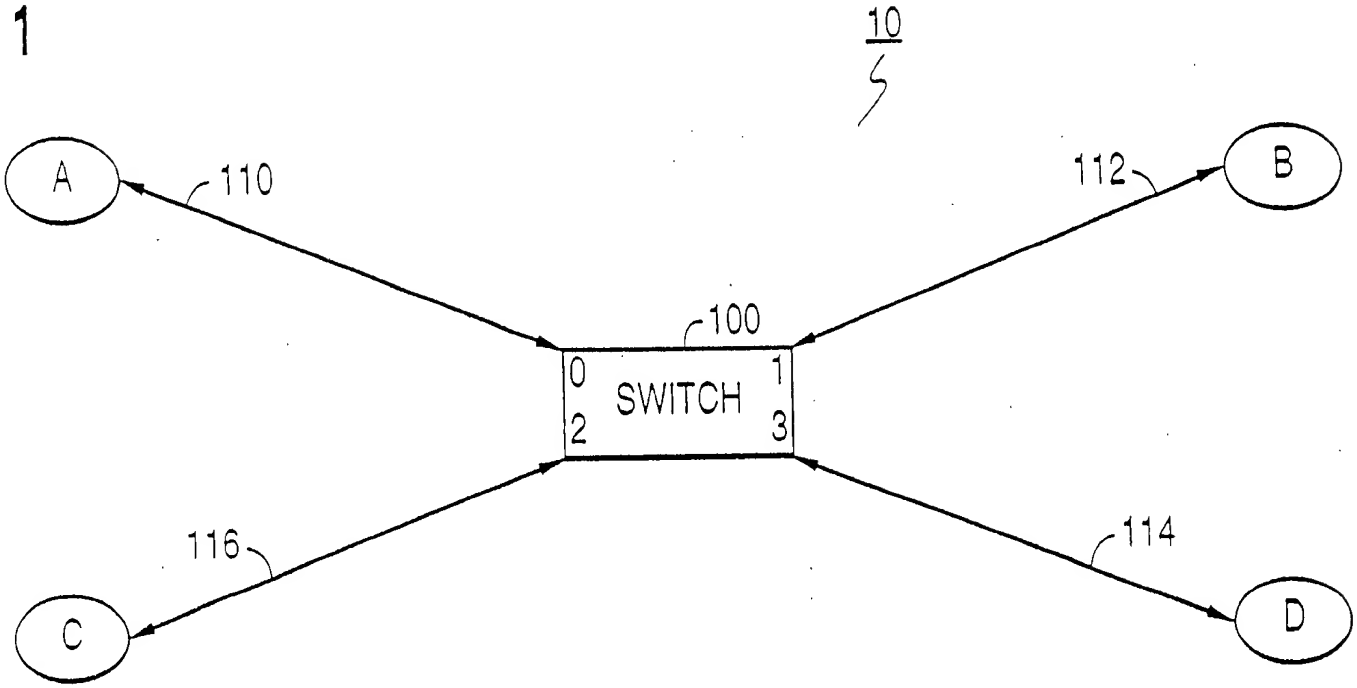

10
A
110
B
112
100
0
SWITCH
1
2
3
116
114
C
D

FIG. 3A

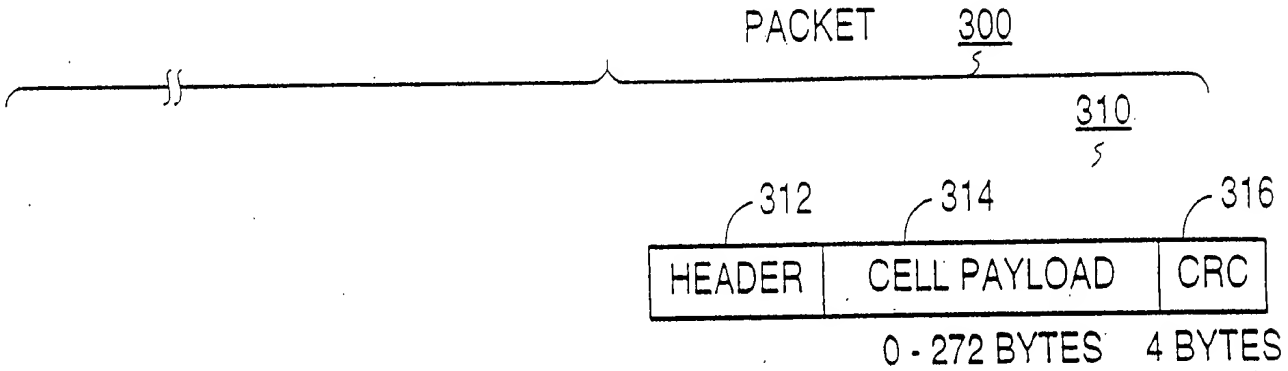
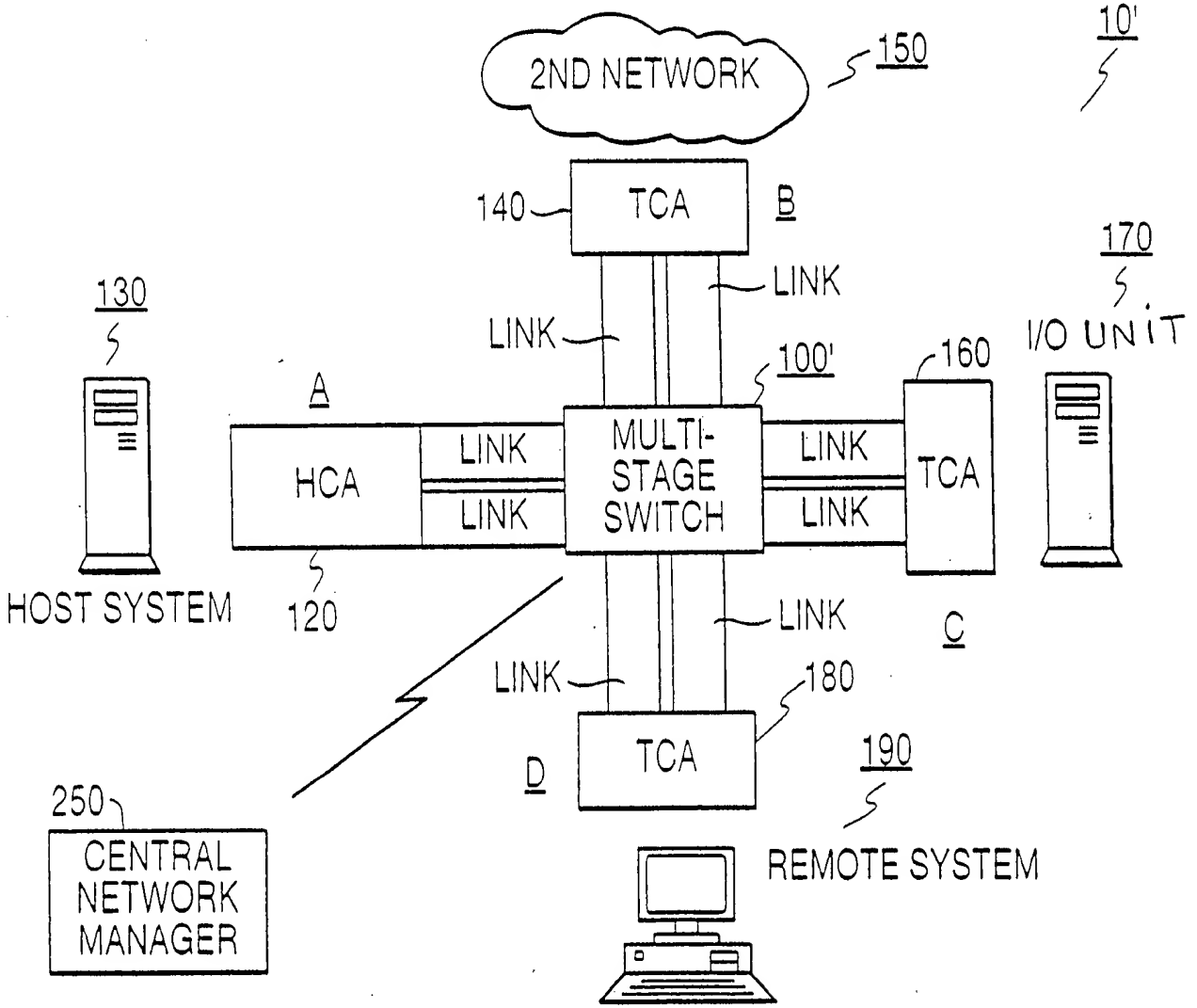

PACKET
300
310
312
314
316
HEADER
CELL PAYLOAD
CRC
0 - 272 BYTES
4 BYTES

FIG. 2



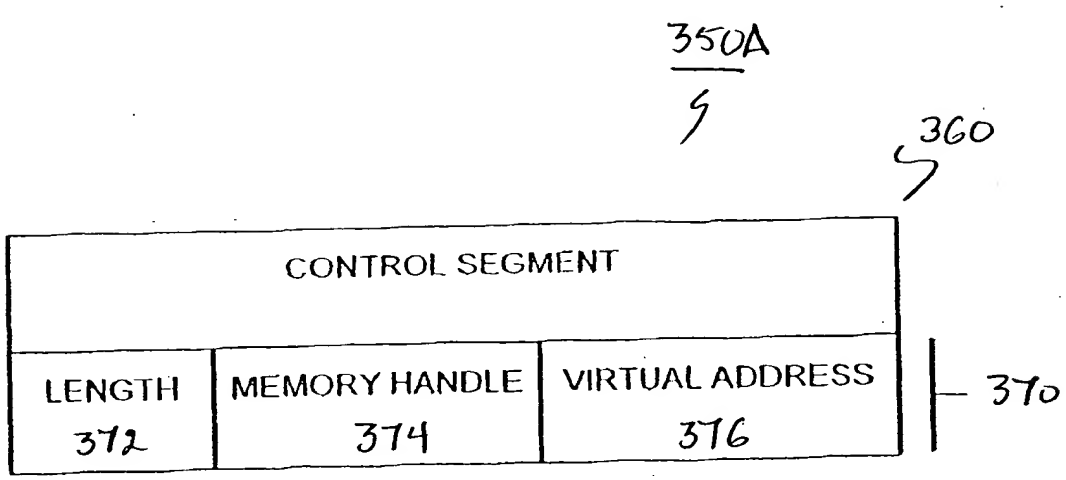

350A
360
CONTROL SEGMENT
LENGTH
372
MEMORY HANDLE
374
VIRTUAL ADDRESS
376
370

FIG. 3B

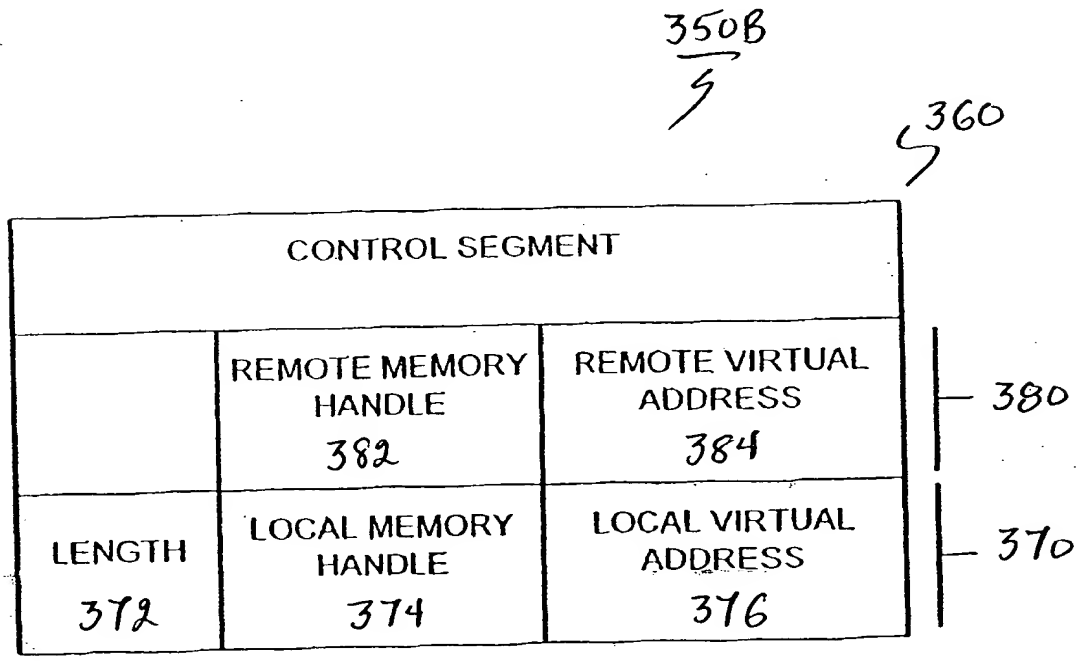

350B
360
CONTROL SEGMENT
REMOTE MEMORY HANDLE
382
REMOTE VIRTUAL ADDRESS
384
380
LENGTH
372
LOCAL MEMORY HANDLE
374
LOCAL VIRTUAL ADDRESS
376
370

FIG. 3C

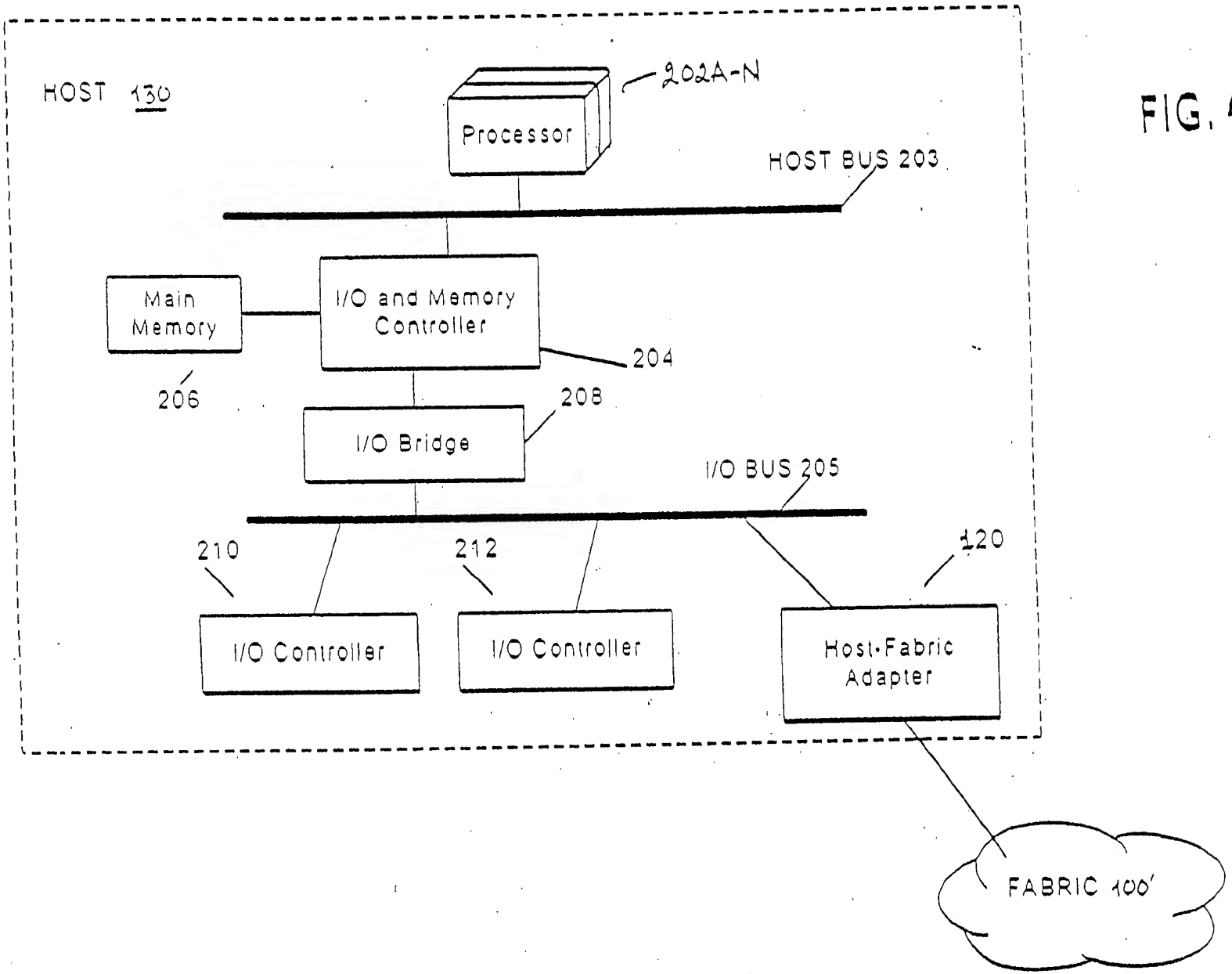


FIG. 4A

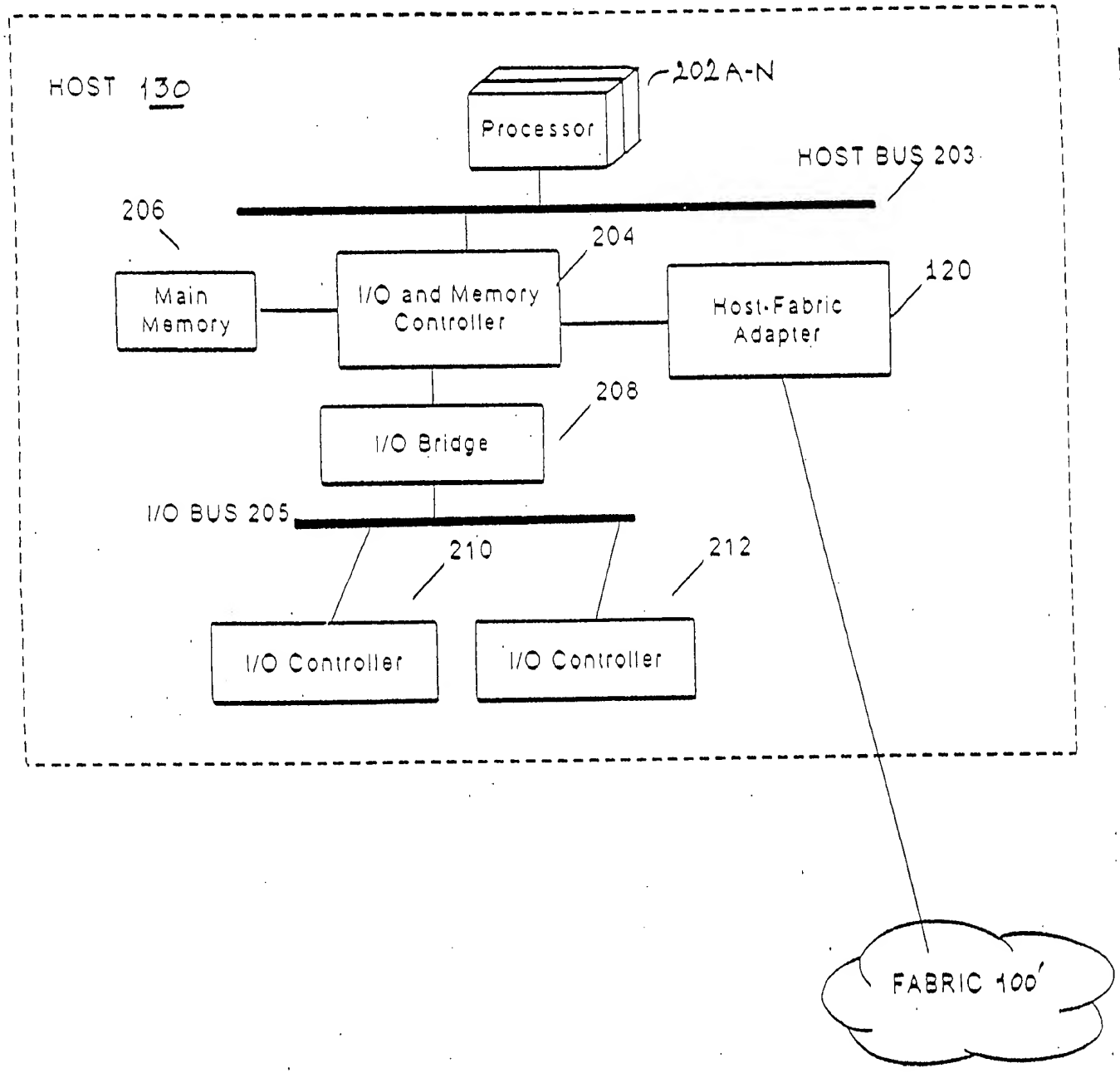
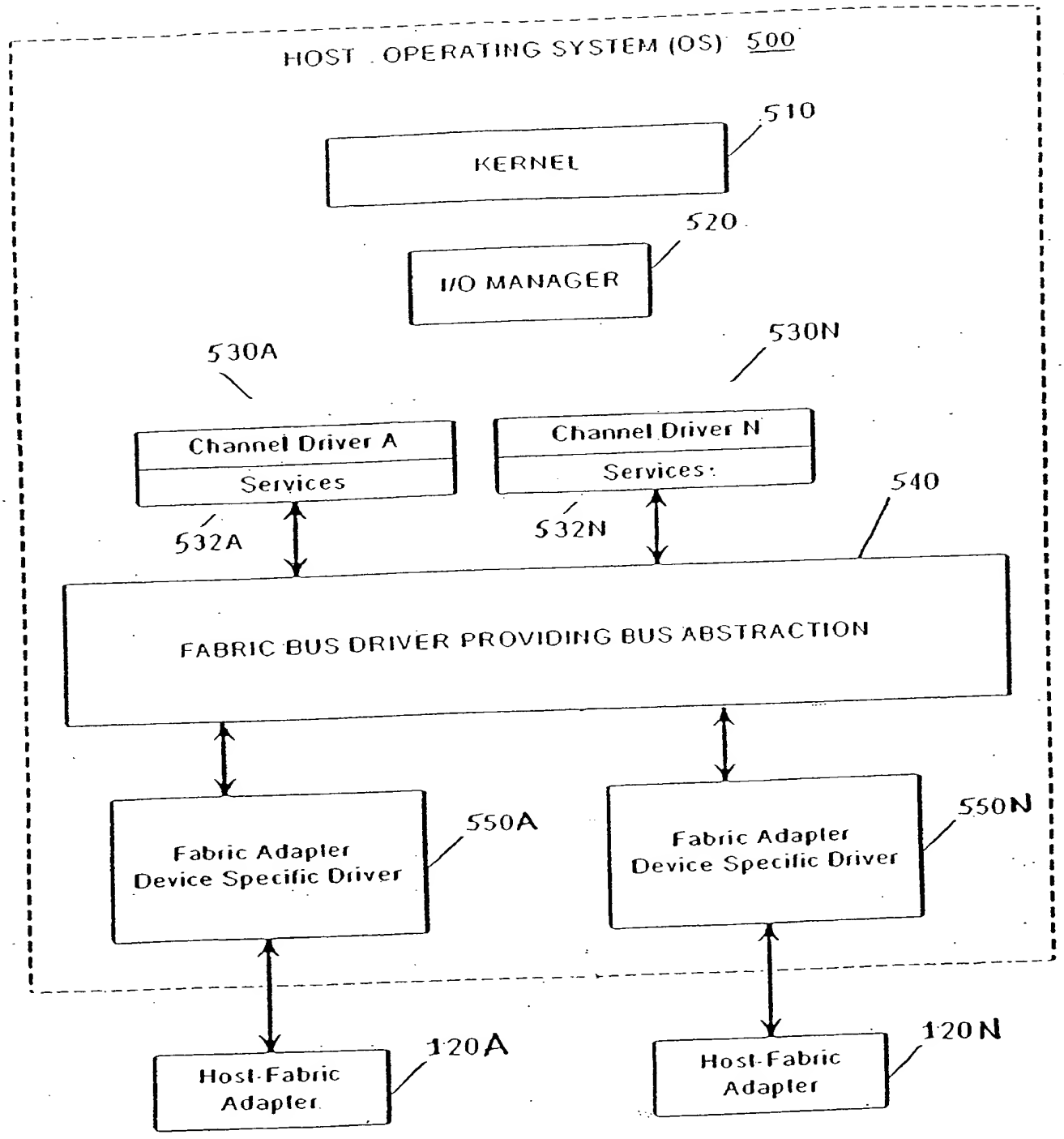


FIG. 4B



EXAMPLE SOFTWARE DRIVER STACKS OF HOST SYSTEM

FIG. 5

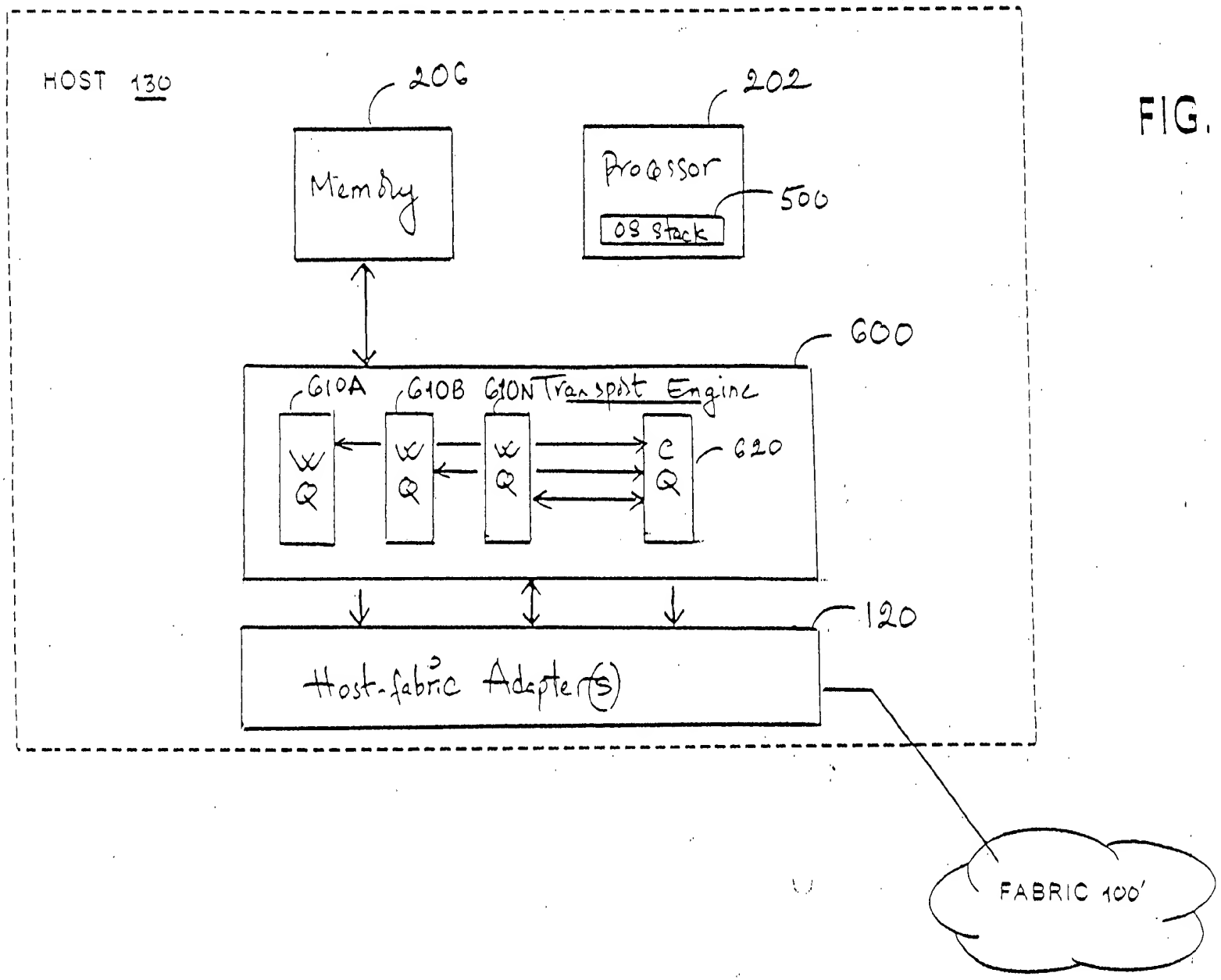


FIG. 6

FIG. 7

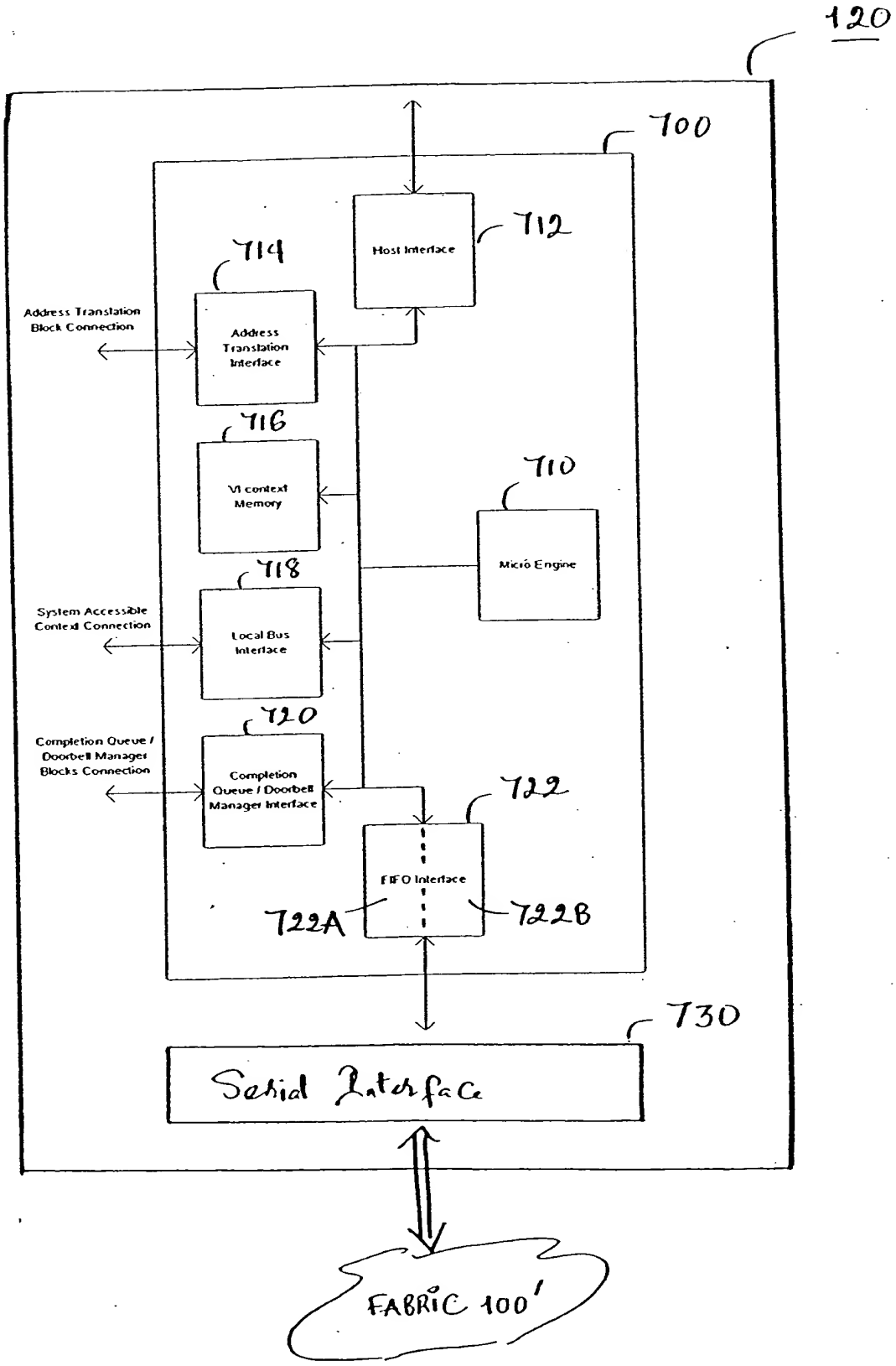

120
700
Host Interface
712
714
Address Translation Block Connection
Address Translation Interface
716
VI context Memory
710
Micro Engine
718
System Accessible Context Connection
Local Bus Interface
720
Completion Queue / Doorbell Manager Blocks Connection
Completion Queue / Doorbell Manager Interface
722
FIFO Interface
722A
722B
730
Serial Interface
FABRIC 100'

FIG. 8

710

5

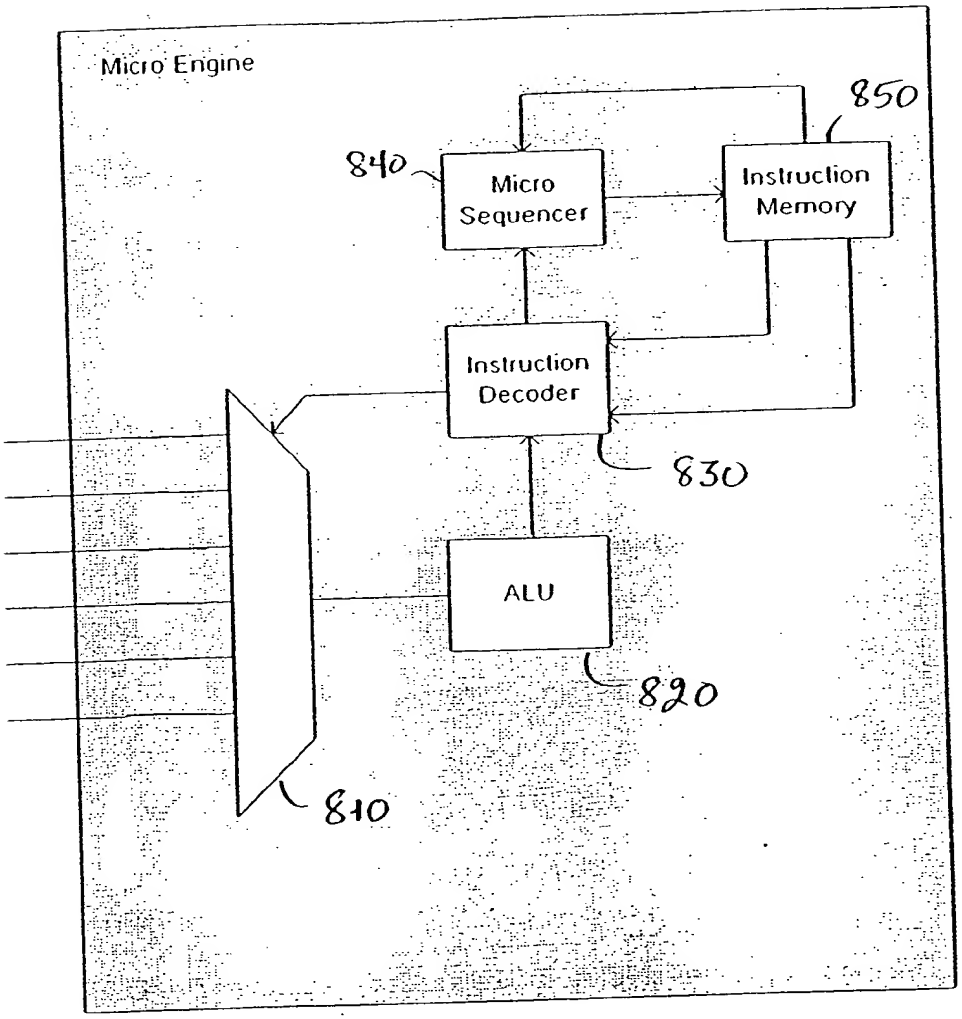

Micro Engine
850
840
Micro Sequencer
Instruction Memory
Instruction Decoder
830
ALU
820
810

FIG. 9

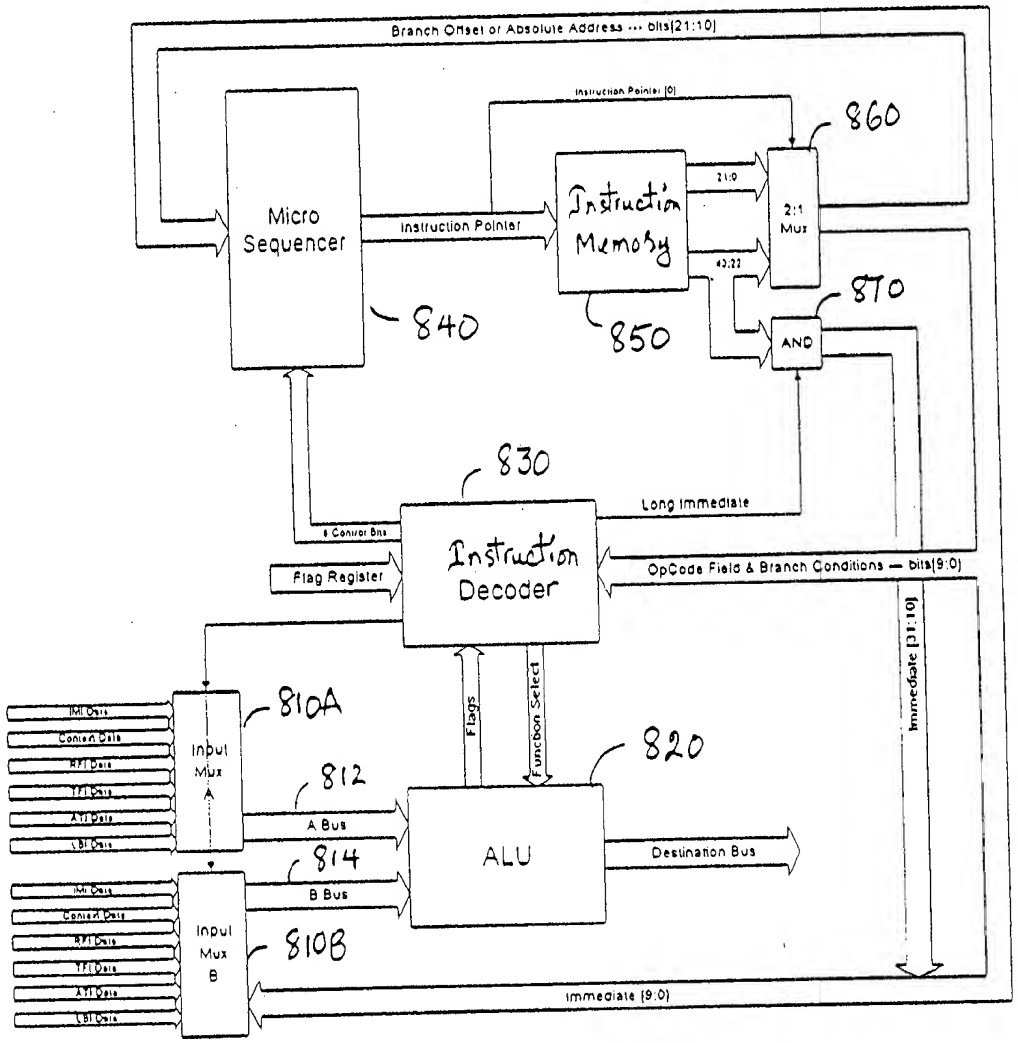
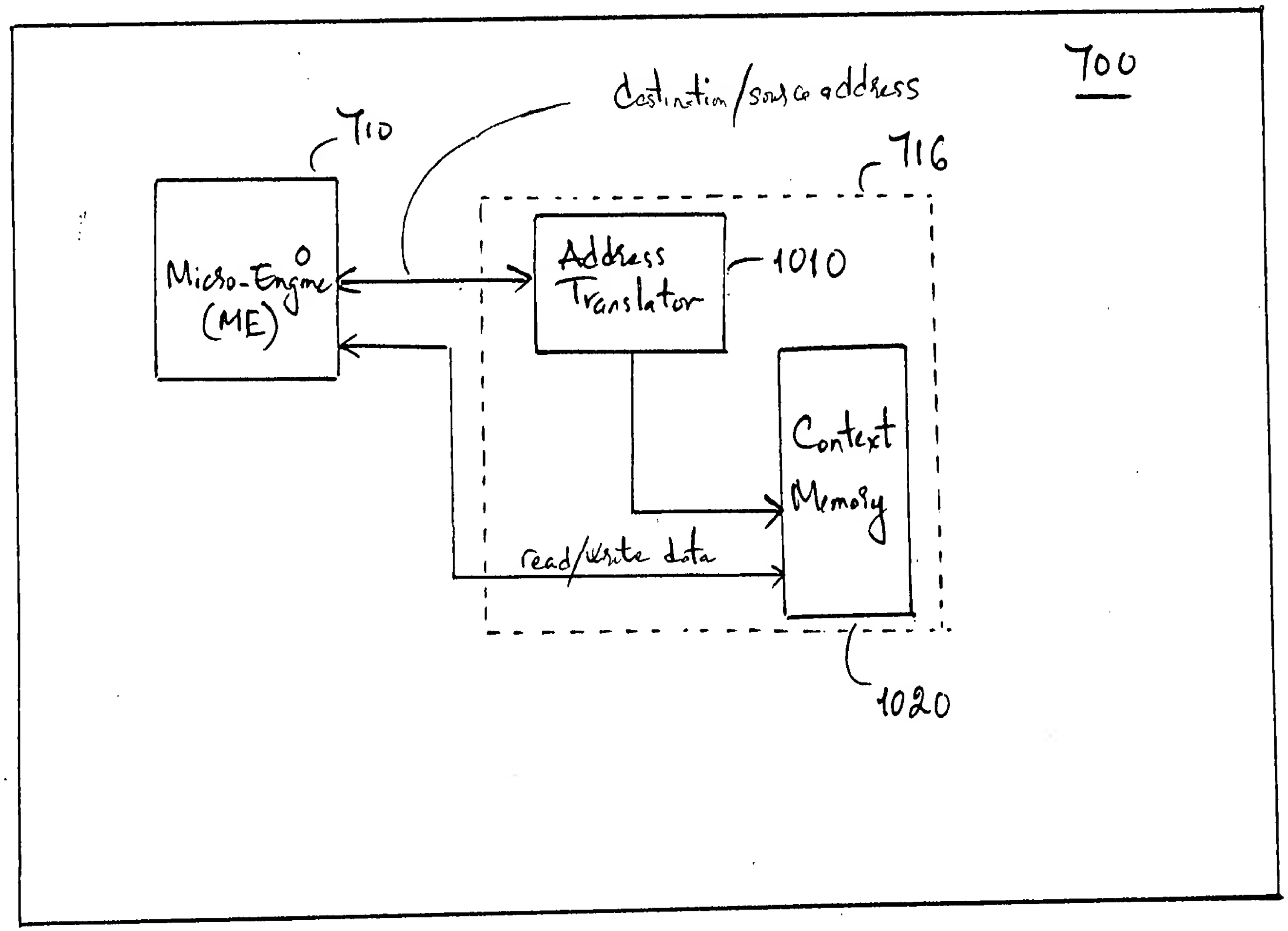

710
Branch Offset or Absolute Address --- bits[21:10]
Instruction Pointer [0]
860
Micro Sequencer
Instruction Pointer
Instruction Memory
21:0
42:22
2:1 Mux
870
AND
840
850
830
Long Immediate
8 Control Bits
Instruction Decoder
Flag Register
OpCode Field & Branch Conditions — bits[9:0]
Immediate [31:10]
Flags
Function Select
IMI Data
Context Data
RFI Data
TFI Data
AYI Data
LBI Data
Input Mux
810A
812
A Bus
820
ALU
Destination Bus
814
B Bus
Input Mux B
810B
immediate [9:0]

FIG. 10


700
710
Micro-Engine 0 (ME)
destination/source address
716
Address Translator
1010
Context Memory
read/write data
1020

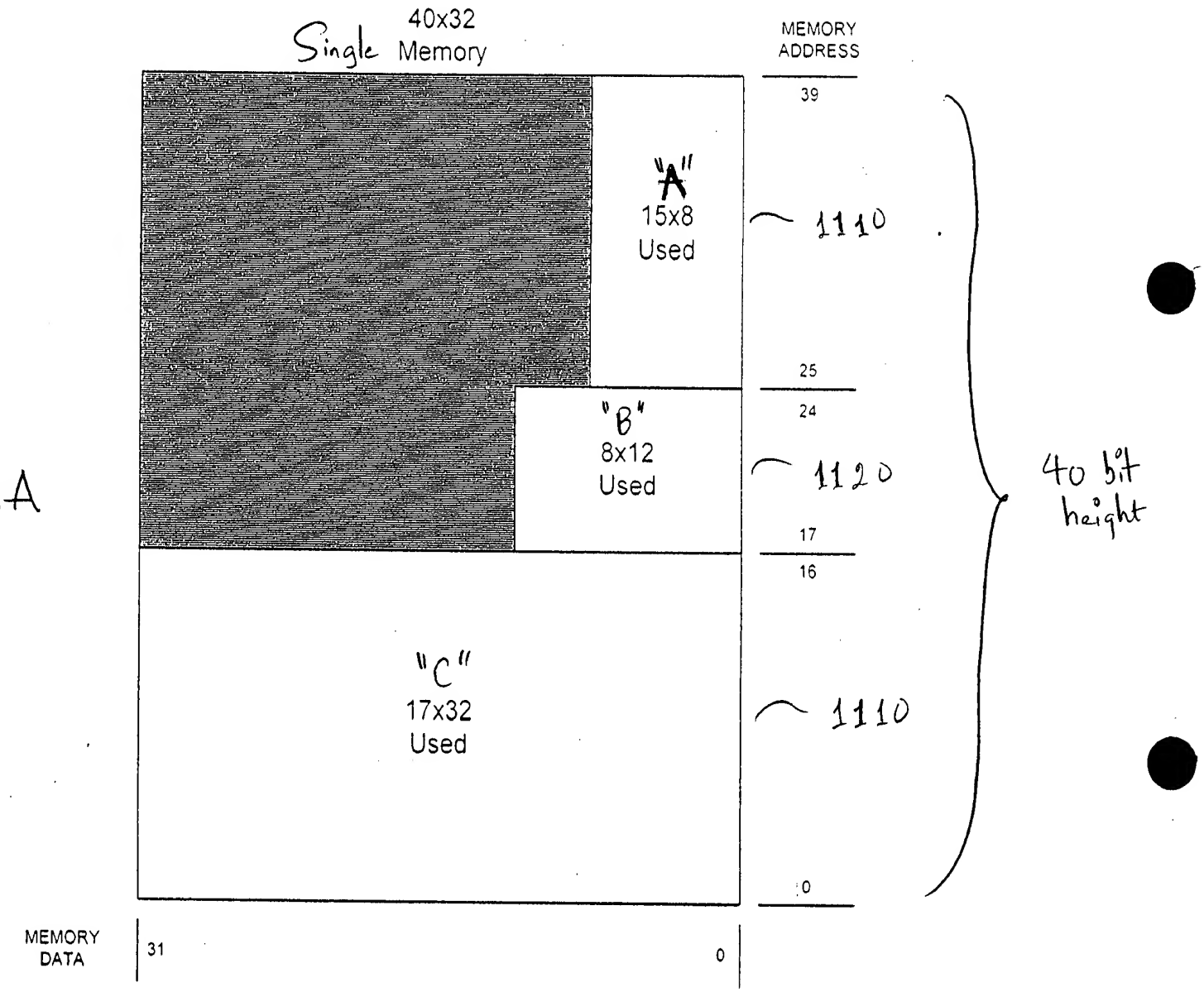


FIG. 11A

FIG. 11B

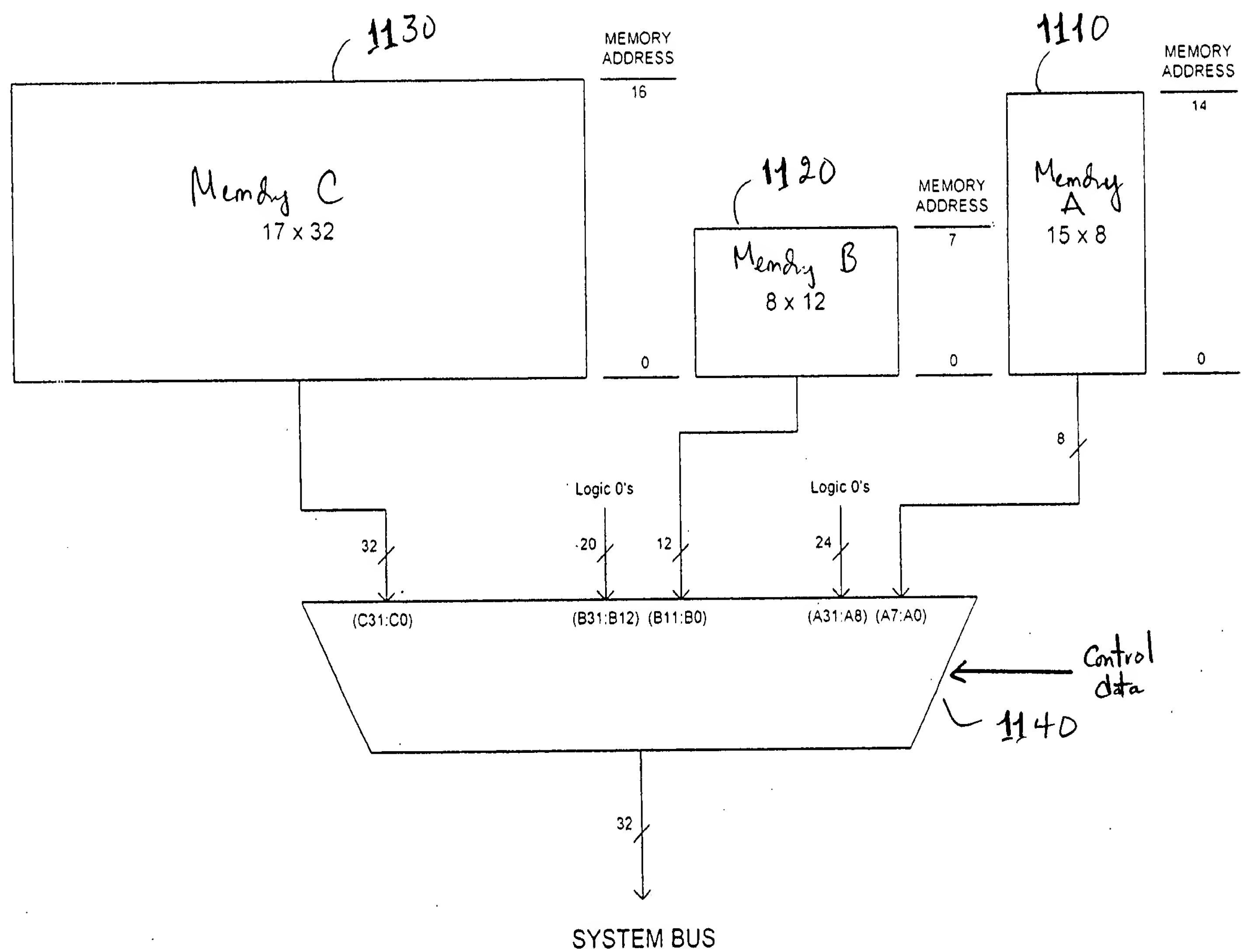


FIG. 12A

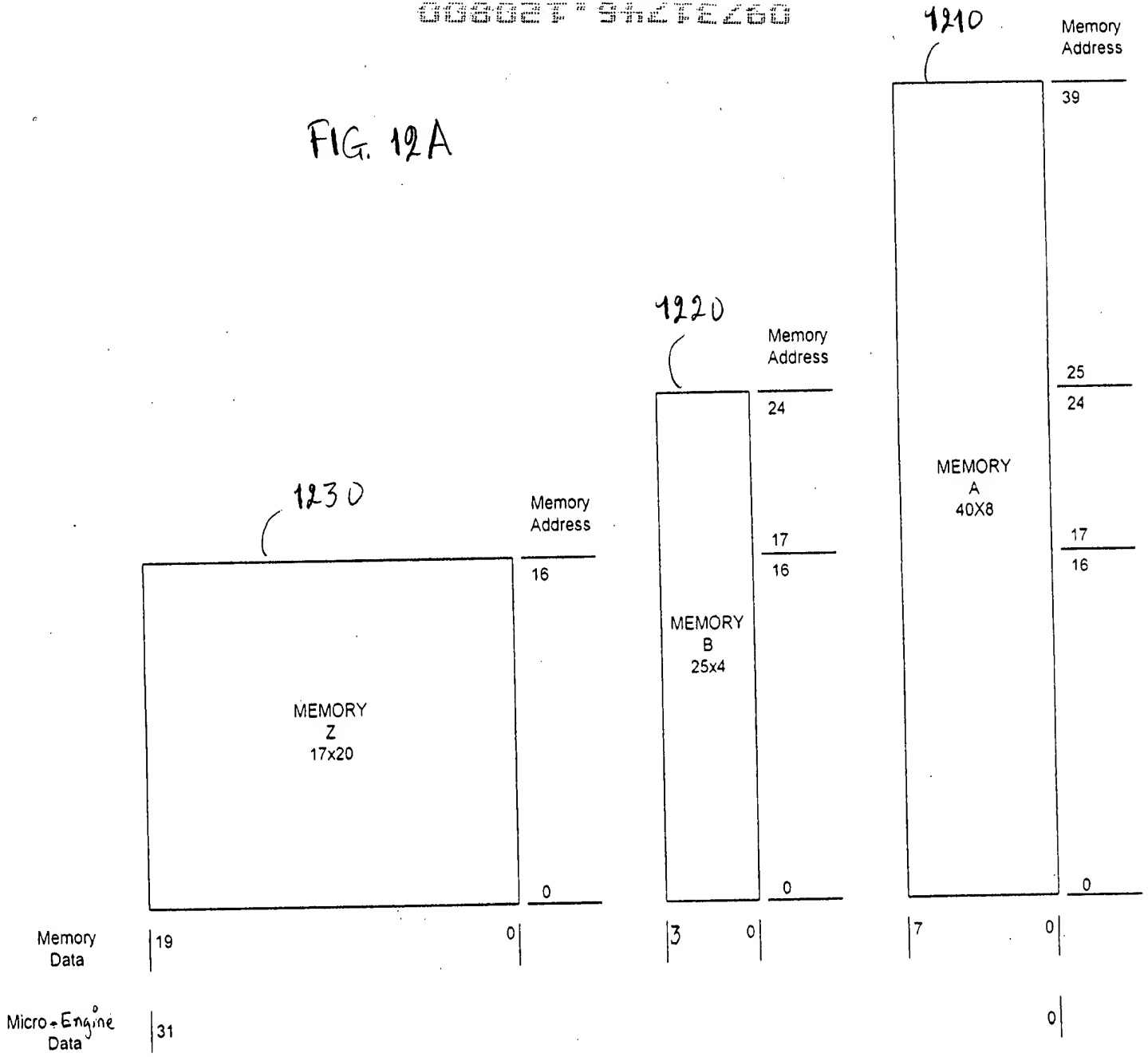


FIG. 12B

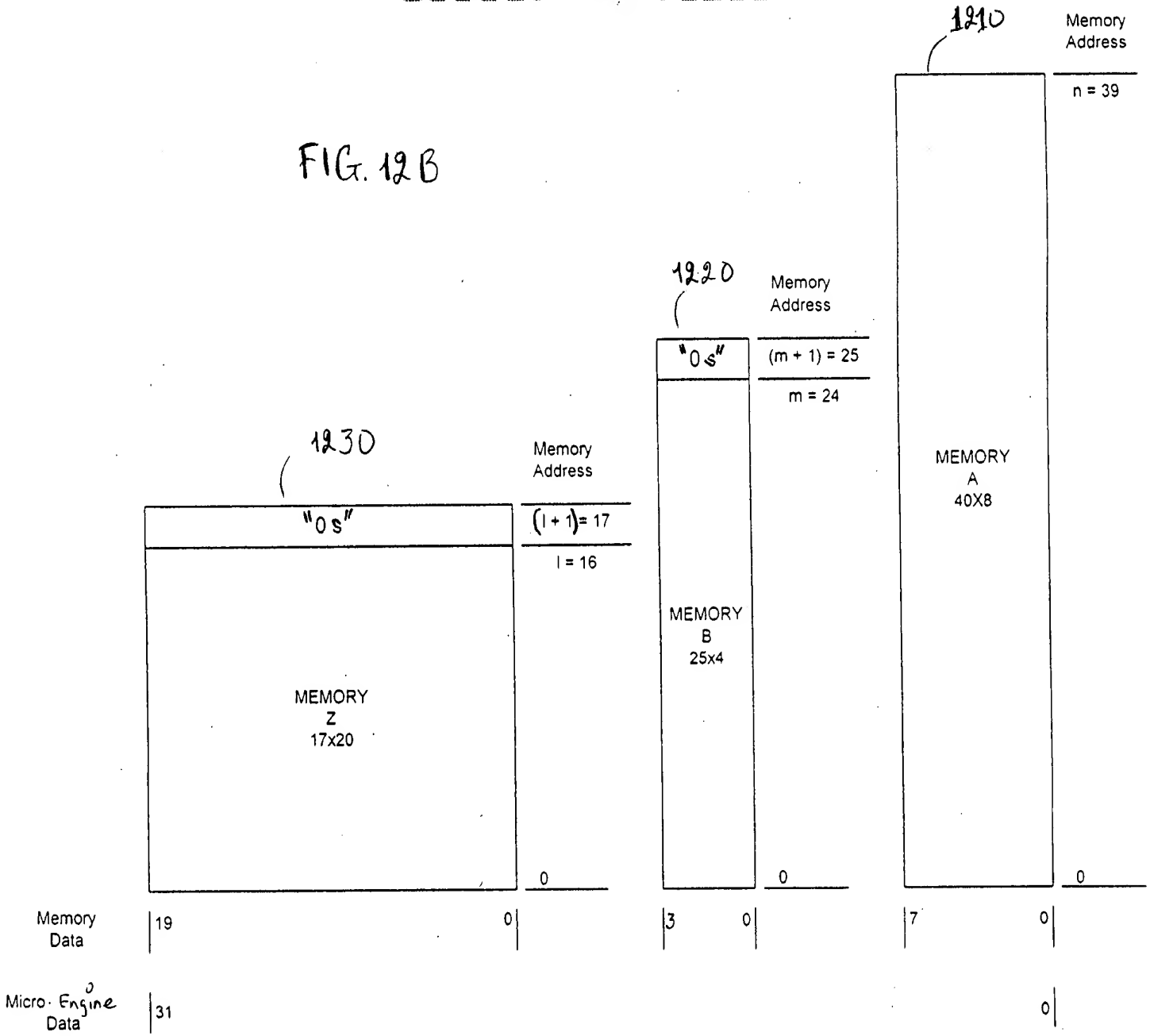


FIG. 13A

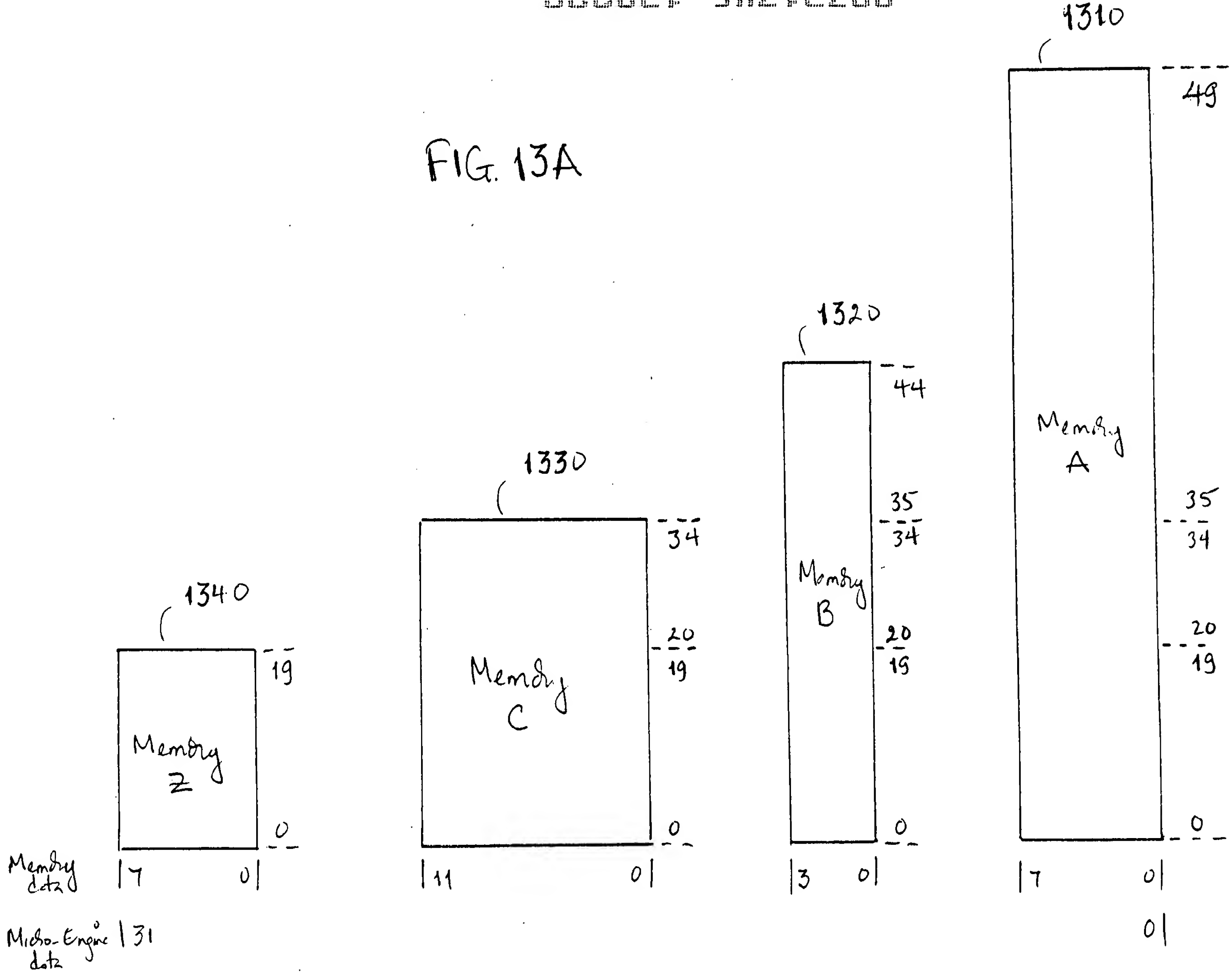

1310
1320
1330
1340
Memory A
Memory B
Memory C
Memory Z
49
44
35
34
20
19
0
7
3
11
Memory data
Micro-Engine data
31

FIG. 13B

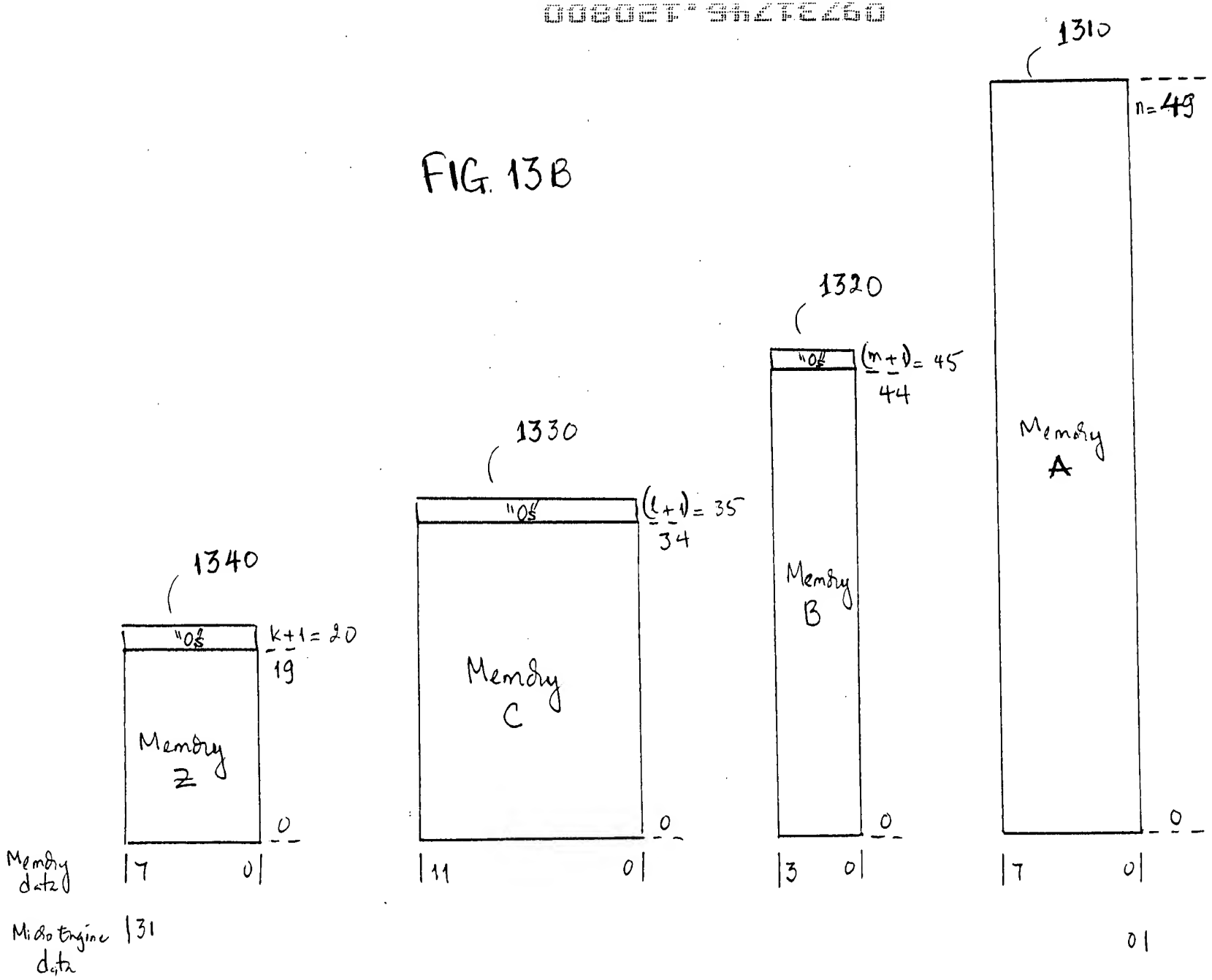


FIG. 14